

CLAIMS

1. Device for detecting a body fall into a swimming pool comprising a probe (1) which is submerged in the water of the swimming pool and serves to retransmit aquatic waves varying in pressure in a compression chamber (8) characterized in that it comprises two identical pressure sensors (2, 8) placed respectively in the compression chamber (8) and inside a main housing (7) comprising an electronic card (4) which is able to subtract the signal of the two sensors in order to eliminate the vibrations as well as the noise caused by the wind on the housing (7).
2. Detection device according to claim 1, characterized in that the electronic card (4) is able to control, in the event of detection of a fall, a siren (6) inside the housing (7).
3. Detection device according to claim 1 or 2, characterized in that the electronic card (4) is able to control, in the event of detection of a fall, a radio transmitter (5).
4. Detection device according to one of claims 1 to 3, characterized in that the pressure sensors (2, 8) are of the piezoelectric type.
5. Detection device according to one of claims 1 to 4, characterized in that the electronic card (4) comprises a band-pass filter (11) centred at one hertz with a narrow bandwidth, the filter being able to reject the signals produced by the filtration of the swimming pool, the fall of an object such as a ball, the cleaning of the swimming pool by a robot, rain and by a significant part of the waves produced by the wind.
6. Detection device according to one of claims 1 to 5, characterized in that the electronic card (4) comprises a microcontroller (13) which is able to reduce the frequency window of the signals processed by a timer counting the interval separating two signals originating from the pool, the microcontroller rejecting the signals if the period is not within a predetermined interval.

7. Detection device according to one of claims 1 to 6, characterized in that the electronic card (4) comprises a microcontroller (13) which is able to count the number of items of valid information.

5           8. Detection device according to claim 7, characterized in that the number of successive and not missing items of valid information for detecting a fall is comprised between 2 and 5.